Journal of
APPLIED POLYMER SCIENCE

CONTENTS

Volume 52

ISSUE NUMBER 1 / APRIL 4, 1994

Microstructure of Charged Mosaic Membranes Constructed by Phase Growth
K. Ishizu and M. Iwade 1

Synthesis and Evaluation of Acrylate Polymers for Improving Flow Properties of Waxy Crudes
I. M. El-Gamal, F. M. Ghuiba, M. H. El-Batanoney, and S. Gobiel 9

Iron(III) Chelating Resins. V. Cross-Linked Copolymers of 1-(β-Acrylamidoethyl)-3-hydroxy-2-methyl-4(1H)pyridinone (AHMP) and *N,N*-Dimethylacrylamide (DMAA) for Iron(III) Chelation Studies
M. Feng, L. Van Der Does, and A. Bantjes 21

Studies on the Sulfonation of Poly(phenylene oxide) (PPO) and Permeation Behavior of Gases and Water Vapor Through Sulfonated PPO Membranes. III. Sorption Behavior of Water Vapor in PPO and Sulfonated PPO Membranes
L. Jia, H. Fu, J. Xu, A. Hirai, and H. Odani 29

On the Effect of Treating Poly(acrylic acid) with Argon and Tetrafluoromethane Plasmas: Kinetics and Degradation Mechanism
J. G. A. Terlingen, G. A. J. Takens, F. J. Van Der Gaag, A. S. Hoffman, and J. Feijen 39

Titration of Aldehydes Present in Poly(Ethylene Terephthalate)
F. Villain, J. Coudane, and M. Vert 55

Synthesis and Studies of Egyptian Bagasse Pith Phenol Formaldehyde Cationic Exchangers
M. S. Metwally, N. E. Metwally, and T. M. Samy 61

Various Properties of Diimide–Diacid-Modified Saturated Polyesters
W.-F. Lee, I. Chen, and C.-H. Chang 69

Polyacrylonitrile (PAN)-Grafted Jute Fibres: Some Physical and Chemical Properties and Morphology
P. Ghosh and P. K. Ganguly 77

Deswelling Characteristics of Poly(*N*-isopropylacrylamide) Hydrogel
T. G. Park and A. S. Hoffman **85**

DNA-like and Phospholipid-like Phosphorylated Polystyrenes: Characterization, Distribution of Functional Groups, and Calcium Complexation Properties
E. Imbert, A. Souirti, V. Menard, F. Pfluger, M. Jozefowicz, and V. Migonney **91**

LDPE/PP Blends Modified by Peroxide and Radiation Induced Reactions
D. W. Yu, M. Xanthos, and C. G. Gogos **99**

The Use of Mica Flakes for Reducing Internal Stress in Cured Epoxy Resin
V. B. Gupta and C. Brahatheeswaran **107**

Diskette Submission Instructions **I**

ISSUE NUMBER 2 / APRIL 11, 1994

Contributions from the Center for Applied Polymer Research (CAPRI) of Case Western Reserve University

Preface **119**

Crazing Phenomena in PC/SAN Microlayer Composites
D. Haderski, K. Sung, J. Im, A. Hiltner, and E. Baer **121**

The Craze-Tip Deformation Zone in PC/SAN Microlayer Composites
K. Sung, D. Haderski, A. Hiltner, and E. Baer **135**

Mechanisms of Interactive Crazing in PC/SAN Microlayer Composites
K. Sung, D. Haderski, A. Hiltner, and E. Baer **147**

Interdiffusion in Microlayered Polymer Composites of Polycarbonate and a Copolyester
G. Pollock, S. Nazarenko, A. Hiltner, and E. Baer **163**

Deformation of Rubber-Toughened Polycarbonate: Macroscale Analysis of the Damage Zone
C. Cheng, A. Hiltner, E. Baer, P. R. Soskey, and S. G. Mylonakis **177**

Effect of Compatibilization on the Properties of Polypropylene/Polyamide-66 (75/25 Wt/Wt) Blends
J. Duvall, C. Sellitti, C. Myers, A. Hiltner, and E. Baer **195**

Interfacial Effects Produced by Crystallization of Polypropylene with Polypropylene-*g*-Maleic Anhydride Compatibilizers
J. Duvall, C. Sellitti, C. Myers, A. Hiltner, and E. Baer **207**

Notch Tip Damage Zone in Biaxially Oriented Polypropylene at Low Temperature
J. Snyder, A. Hiltner, and E. Baer **217**

Analysis of the Notch Tip Damage Zone in Biaxially Oriented Polypropylene
J. Snyder, A. Hiltner, and E. Baer **231**

Ductility of Filled Polymers
S. Bazhenov, J. X. Li, A. Hiltner, and E. Baer 243

The Ductile-to-Quasi-Brittle Transition of Particulate-Filled Thermoplastic Polyester
J. X. Li, M. Silverstein, A. Hiltner, and E. Baer 255

Fractography and Failure Mechanisms of Particulate-Filled Thermoplastic Polyester
J. X. Li, A. Hiltner, and E. Baer 269

PVC/MBS Blends with Small Concentrations of PET: Failure Processes in Thin Films During Uniaxial Tension
J. X. Li, M. V. Twigg, A. Hiltner, and E. Baer 285

Blend Structure of Commingled Plastic from Recycled Polyethylene and Polystyrene
T. Li, S. Henry, M. S. Silverstein, A. Hiltner, and E. Baer 301

Mechanical Properties of Commingled Plastic from Recycled Polyethylene and Polystyrene
T. Li, M. S. Silverstein, A. Hiltner, and E. Baer 315

Application of Scanning Acoustic Microscopy to Polymeric Materials
F. Lisy, A. Hiltner, E. Baer, J. L. Katz, and A. Meunier 329

Diskette Submission Instructions I

ISSUE NUMBER 3 / APRIL 18, 1994

Effects of Water Content on the Properties of Starch/Poly(ethylene–vinyl alcohol) Blends
P. A. Dell and W. G. Kohlman 353

Effects of Cast Film Fabrication Variables on Structure Development and Key Stretch Film Properties
J. A. deGroot, A. T. Doughty, K. B. Stewart, and R. M. Patel 365

Electrical, Thermal, and Photo Properties of Poly(phenylene vinylene) Precursors. II. Microwave-Induced Elimination Reactions in Precursor Polymer Films
A. Torres-Filho and R. W. Lenz 377

Thermal Analysis of Silver Coatings Used for Tantalum Capacitors
M. Ulrich, L. Sarraf, and C. Loucheux 387

A Simple Dilatometer for Thermoset Cure Shrinkage and Thermal Expansion Measurements
A. W. Snow and J. P. Armistead 401

The Surface Modification of Polyethylene by Solution-Phase Photochemical Grafting Using Short Irradiation Times
L. M. Hamilton, A. Green, S. Edge, J. P. S. Badyal, W. J. Feast, and W. F. Pacynko 413

The Thermo-Oxidative Stability of Fluorinated Polyimides and Polyimide/Graphite Composites at 371°C
D. A. Scola and M. Wai 421

Spreading of a Droplet on a Solid Surface
A. E. Seaver and J. C. Berg **431**

Modified Lignosulfonate as Adhesive
R. Chen and Q. Wu **437**

Grafting Poly(Vinyl Amine-co-Acrylic Acid)s on Poly(Vinylidene Fluoride) Membranes
H. Iwata **445**

Synthesis and Polymerizations of Monomers Bearing Phosphonated Groups. I. Applications on Acrylates and Methacrylates
B. Boutevin, B. Hamoui, and J. P. Parisi **449**

Water Absorption and Disc Cracking in Urethane–Methacrylate Resins
C. B. Bucknall, X. C. Zhang, M. L. Orton, and G. V. Jackson **457**

Diskette Submission Instructions **I**

ISSUE NUMBER 4 / APRIL 25, 1994

Interfacial Synthesis and Characterization of Random and Segmented Block Bisphenol A–Tetrabromobisphenol A Copolycarbonates
M. J. Marks **467**

On the Compatibilization and Dynamic Vulcanization of Polyacetal/Ethylene Propylene Diene Terpolymer Blends
G. Kumar, N. R. Neelakantan, and N. Subramanian **483**

Crystallization Analysis Fractionation: A New Technique for the Analysis of Branching Distribution in Polyolefins
B. Monrabal **491**

Solvent Replacement in the Synthesis of Persubstituted Phosphonitrilic Hydroquinone Prepolymer Materials
D. A. Femec and R. R. McCaffrey **501**

Properties of a Mechanically Processed Polymeric Material
J. Pan and W. J. D. Shaw **507**

Microstructure of Polyurethane Ionomers Derivatized with Dodecylamine and Polyethylene Oxide in the Hard Segment
J. P. Santerre and J. L. Brash **515**

Mechanical Properties of Cellulose Acetate Propionate/Aliphatic Polyester Blends
A. W. White, C. M. Buchanan, B. G. Pearcy, and M. D. Wood **525**

Crop Residues as Ion-Exchange Materials. Treatment of Soybean Hull and Sugar Beet Fiber (Pulp) with Epichlorohydrin to Improve Cation-Exchange Capacity and Physical Stability
J. A. Laszlo and F. R. Dintzis **531**

Analysis on the Surface Adsorption of PEO/PPO/PEO Triblock Copolymers by Radiolabelling and Fluorescence Techniques
M. M. Amiji and K. Park **539**

Analysis of Polyethylene Surface Sulfonation
D. Fischer and H. H. Eysel 545

Viscoelastic Behavior of Flexible Slabstock Polyurethane Foams: Dependence on Temperature and Relative Humidity. I. Tensile and Compression Stress (Load) Relaxation
J. C. Moreland, G. L. Wilkes, and R. B. Turner 549

Viscoelastic Behavior of Flexible Slabstock Polyurethane Foams as a Function of Temperature and Relative Humidity. II. Compressive Creep Behavior
J. C. Moreland, G. L. Wilkes, and R. B. Turner 569

Synthesis and Characterization of Liquid Crystal Photoresist
K. Yamashita, S. Kyo, T. Miyagawa, M. Nango, and K. Tsuda 577

Diskette Submission Instructions I

ISSUE NUMBER 5 / MAY 2, 1994

Synthesis and Fungicidal Activities of Polymeric Biocides. I. TBZ-Containing Monomer and Polymers
S. T. Oh, B. K. Min, C. S. Ha, and W. J. Cho 583

Acetals as Nucleating Agents for Polypropylene
T. L. Smith, D. Masilamani, L. K. Bui, R. Brambilla, Y. P. Khanna, and K. A. Gabriel 591

Studies on Cure Synergism. I. Effect of Safe Zinc Dithiocarbamates on NR Vulcanization Accelerated by Thiazole-Based Accelerators
S. C. Debnath and D. K. Basu 597

Crystallinity in the Polypropylene/Cellulose System. II. Crystallization Kinetics
D. T. Quillin, M. Yin, J. A. Koutsky, and D. F. Caulfield 605

Properties of Blends of Starch and Synthetic Polymers Containing Anhydride Groups
U. R. Vaidya and M. Bhattacharya 617

Semiempirical Models for Steady-Shear Viscosity and Prediction of First Normal Stress Function
Y. Seo 629

Polymeric Phosphonium Salts as a Novel Class of Cationic Biocides. VI. Antibacterial Activity of Fibers Surface-Treated with Phosphonium Salts Containing Trimethoxysilane Groups
A. Kanazawa, T. Ikeda, and T. Endo 641

Crystallization Processes in Poly(Ethylene Terephthalate) as Modified by Polymer Additives and Fiber Reinforcement
V. E. Reinsch and L. Rebenfeld 649

Epoxy Resin–Polyethersulphone Blends
M. Akay and J. G. Cracknell 663

Behavior of Amine-Modified Urea–Formaldehyde-Bonded Wood Joints at Low Formaldehyde/Urea Molar Ratios
R. O. Ebewele, B. H. River, and G. E. Myers 689

Kinetics of Synthesizing 2,4,6-Tribromophenyl Benzyl Ether in a Triphase Catalysis
M.-L. Wang and C.-Z. Peng **701**

Electrochromic Behavior and Stability of Polyaniline Composite Films Combined with Prussian Blue
M. Morita **711**

Diskette Submission Instructions **I**

ISSUE NUMBER 6 / MAY 9, 1994

Rheological Properties of Highly Swollen Hydrogel Suspensions
T. V. Budtova, V. P. Budtov, P. Navard, and S. Ya. Frenkel **721**

Phototackification of Polymer Blends
H. E. Simmons III, W. R. Hertler, and B. B. Sauer **727**

Characterization of Model Anaerobic Adhesive Cure Using Real-Time Fourier Transform Infrared Spectroscopy and Dielectric Spectroscopy
B. P. McGettrick, J. K. Vij, and C. B. McArdle **737**

Fast Pyrolysis of Cellulose with Reactive Methane Gas in a Single-Pulse Shock Tube
Z. Öztürk and J. F. Merklin **747**

Synthesis and Characterization of Long-Chain Fatty Acid Cellulose Ester (FACE)
P. Wang and B. Y. Tao **755**

Strong Buffering Characteristics and Swelling Behavior of Cationic Copolymers
N. A. Peppas and L. K. Foster **763**

Dyeability of Silk Fabrics Modified with Dibasic Acid Anhydrides
G. Freddi, M. Tsukada, H. Kato, and H. Shiozaki **769**

Chemical Structure and Physical Properties of *Antheraea assama* Silk
G. Freddi, Y. Gotoh, T. Mori, I. Tsutsui, and M. Tsukada **775**

Equilibrium Swelling Properties of Weakly Ionizable 2-Hydroxyethyl Methacrylate (HEMA)-Based Hydrogels
J. P. Baker, H. W. Blanch, and J.M. Prausnitz **783**

Development of a Poly(Methyl Methacrylate-*co*-*n*-Butyl Methacrylate) Copolymer Binder System
N. K. Vail, J. W. Barlow, J. J. Beaman, H. L. Marcus, and D. L. Bourell **789**

Preparation and Structure of Cross-Linked Asymmetric Membranes Based on Polystyrene and Divinylbenzene
H. S. Byun and R. P. Burford **813**

Sulfonation of Cross-Linked Asymmetric Membranes Based on Polystyrene and Divinylbenzene
H. S. Byun, R. P. Burford, and A. G. Fane **825**

Diskette Submission Instructions **I**

ISSUE NUMBER 7 / MAY 16, 1994

Interpenetrating Hydrogel Networks Based on Gelatin and Polyacrylamide: Synthesis, Swelling, and Drug Release Analysis
B. Ramaraj and G. Radhakrishnan **837**

Preparation and Physical Properties of Polyurethane Modified with Poly(4,4′-diphenylsulfone Terephthalamide)
H.-H. Wang and K.-R. Shiao **847**

Kinetics and Reaction Mechanism of Fenton's-Reagent-Initiated Graft Copolymerization of Acrylonitrile onto Sodium Alginate
S. B. Shah, C. P. Patel, and H. C. Trivedi **857**

Studies on the Structure and Properties of Nylon 46 Fiber. I. Dimensional Stability
K. Kudo, M. Mochizuki, S. Kiriyama, M. Watanabe, and M. Hirami **861**

Polyurethanes Synthesized from Polyester Polyols Derived from PET Waste. II. Thermal Properties
S.-C. Lee, Y.-W. Sze, and C.-C. Lin **869**

Crystallization of Poly(Ethylene Terephthalate) (PET) from the Oriented Mesomorphic Form
L. Parravicini, B. Leone, F. Auriemma, G. Guerra, V. Petraccone, G. Di Dino, R. Bianchi, and R. Vosa **875**

Comb-Type Polymers and Their Interaction with Wax Crystals in Waxy Hydrocarbon Fluids: Wide-Angle X-Ray Diffraction Studies
A. K. Chatterjee, S. D. Phatak, P. S. Murthy, and G. C. Joshi **887**

Cyclotrimerization of Isocyanate Groups. I. Catalyzed Reactions of Phenyl Isocyanate
M. Špírková, M. Kubín, P. Špaček, I. Krakovský, and K. Dušek **895**

Influence of the Controlled Rheology Process (Vis-Breaking) on Additive Effectiveness in Polypropylene
N. M. Tollefson **905**

Synthesis, Characterization, and Coating Applications of Chlorinated Hydroxyrubber
S. F. Thames and Z. A. He **917**

Morphology–Property Relationship in Oriented PET Films: Microstructural Reorganization during Heat Treatment
R. M. Gohil **925**

Continuous Carbonization of Polyacrylonitrile-Based Oxidized Fibers: Aspects on Mechanical Properties and Morphological Structure
J. Liu, P. H. Wang, and R. Y. Li **945**

Preparation of Poly(vinyl alcohol)-*graft*-*N*-isopropylacrylamide Copolymer Membranes and Permeation of Solutes through the Membranes
T. Nonaka, T. Ogata, and S. Kurihara **951**

Permeability through Cellulose Membranes Grafted with Vinyl Monomers in a Homogeneous System. VIII. *N*-Vinylpyrrolidone-Grafted Cellulose Membranes
N. Nishioka, M. Tsuetaki, R. Kato, and M. Uno **959**

Fracture Toughness of Adhesive Joints. I. Relationship between Strain Energy Release Rates in Three Different Fracture Modes and Adhesive Strengths
W. W. Lim, Y. Hatano, and H. Mizumachi **967**

Simultaneous Measurement of Water Diffusion, Swelling, and Calcium Carbonate Removal in a Latex Paint Using FTIR–ATR
C. M. Balik and J. R. Xu **975**

A Generalized Model to Predict the Viscosity of Solutions with Suspended Particles. IV. Determination of Optimum Particle-by-Particle Volume Fractions
R. D. Sudduth **985**

Effect of Polymeric Steric Stabilizers on the Settling of Alumina
G. H. Armstrong, L. Johnson, and A. A. Parker **997**

NOTE

Conductive Polymer Thermoelements
A. Tracz, J. K. Jeszka, and M. Kryszewski **1005**

Diskette Submission Instructions **I**

ISSUE NUMBER 8 / MAY 23, 1994

Polymer Blend: A Novel Method for the Preparation of a Natural Rubber–Carboxylated Nitrile Rubber Blend
N. Naskar, T. Biswas, and D. K. Basu **1007**

Determination of Functionality and Functionality Distribution of Polyether Polyols by Quantitative ^{13}C NMR Spectroscopy
R. H. Carr, J. Hernalsteen, and J. Devos **1015**

Polypropylene/Poly(Vinyl Acetate) Blend Fiber
W. Xiao **1023**

Development and Characterization of Cellulose Acetate Benzoate Flat Osmotic Membranes
M. D. Vyas, R. C. Mody, and I. C. Mody **1031**

Chemical Structure and Dynamic Mechanical Behavior of Silk Fibers Modified with Different Kinds of Epoxides
H. Shiozaki, M. Tsukada, Y. Gotoh, N. Kasai, and G. Freddi **1037**

Study of an Aramid Surface Reactivity: Modification with a Cold Plasma or an Electron Beam Followed by a Postgrafting Reaction
F. Poncin-Epaillard, B. Chevet, and J.-C. Brosse **1047**

Effect of Antioxidants on Properties and Morphology of Poly(Acrylonitrile–Butadiene–Styrene)/Polycarbonate Blends
R. J. Yan and B. Yang **1063**

Effect of Environmental Factors on the Mechanical Properties of Grafted Casein Films: Influence of Temperature and Extension Rate
N. Somanathan **1069**

Effect of Moisture and Orientation on the Fracture of Nylon 6,6 Fibers
S. Michielsen **1081**

Thermal Characteristics of Silver Powder-Filled Polypropylene Composites
S. N. Maiti and K. Ghosh **1091**

Chain Transfer Behavior of Fractionated Commercial Mercaptans in Emulsion Polymerization of Styrene
L. Harelle, T. Pith, G.-H. Hu, and M. Lambla **1105**

Mechanical Properties of the Rubber-Toughened Polymer Blends of Polycarbonate (PC) and Poly(Ethylene Terephthalate) (PET)
Z.-L. Liao and F.-C. Chang **1115**

Thermoplastic Interpenetrating Polymer Networks Based on a Poly(Styrene-*b*-Butadiene) Copolymer and an Ionically-Terminated Polybutadiene Ionomer
S. A. M. Ali and D. J. Hourston **1129**

Glycidyl-Terminated Polyurethane Modified Epoxy Resins: Mechanical Properties, Adhesion Properties, and Morphology
H.-C. Hsia, C.-C. M. Ma, M.-S. Li, Y.-S. Li, and D.-S. Chen **1137**

Studies on Selective Adsorption Resins. XXXIII. Behavior of Macroreticular Chelating Resins Containing Phosphinic and/or Phosphonic Acid Groups in the Adsorption of Trivalent Lanthanides
H. Egawa, K. Yamabe, and A. Jyo **1153**

Effect of Surfactants on the Particle Sizes of Red #170 Polyurea Microcapsules
Y. M. Kuo, C. T. Wu, W. H. Wu, and D. Y. Chao **1165**

Diskette Submission Instructions **I**

ISSUE NUMBER 9 / MAY 31, 1994

Solid-State NMR Characterization of Motion in Flexible Polyurethane Foams
J. C. Moreland, G. L. Wilkes, C. G. Moreland, S. S. Sankar, E. O. Stejskal, and R. B. Turner **1175**

Preparation of High-Strength and High-Modulus Poly(Vinyl Alcohol) Fibers by Crosslinking Wet Spinning/Multistep Drawing Method
K.-S. Hwang, C.-A. Lin, and C.-H. Lin **1181**

On the Analysis of Positron Annihilation Lifetime Spectroscopy Data in Semicrystalline Miscible Polymer Blend Systems
G. P. Simon, M. D. Zipper, and A. J. Hill **1191**

Characterization of Electropolymerized Graphite Fiber–Polyacrylamide Composites
J. O. Iroh, Y. Suhng, and M. M. Labes **1203**

Properties of Oriented Polyethylene Bars of Large Cross Section
G. Courval, L.-H. Wang, and R. S. Porter **1211**

Pervaporation Separation of Binary Organic–Aqueous Liquid Mixtures Using Cross-Linked PVA Membranes. II. Phenol–Water Mixtures
J.-W. Rhim, M.-Y. Sohn, and K.-H. Lee **1217**

Electrical and Thermal Conductivities of Polyethylene Composites Filled with Biaxial Oriented Short-Cut Carbon Fibers
Y. Agari, A. Ueda, and S. Nagai **1223**

The Cross-Linking of Acrylic Rubber in the Presence of Group IIB Metal Oxides
P. Chowdhury, M. C. Chakravorti, and C. K. Das **1233**

Measurement of Diffusivity of a Liquid Diamine in Solid Epoxies Using Attenuated Total Reflectance Infrared Spectroscopy (FTIR-ATR)
T. P. Skourlis and R. L. McCullough **1241**

Continuous Polymerization of Caprolactam in a Modular Intermeshing Corotating Twin Screw Extruder Integrated with Continuous Melt Spinning of Polyamide 6 Fiber: Influence of Screw Design and Process Conditions
H. Kye and J. L. White **1249**

Immobilization of Spent Ion-Exchange Resins in the Urea-Formaldehyde Matrix
S. V. S. Rao, H. Kothandaraman, M. Sudhakar, K. B. Lal, and R. V. Amalraj **1263**

Synthesis of Bifunctional Ion-Exchange Resins through the Arbusov Reaction: Effect on Selectivity and Kinetics
A. W. Trochimczuk and S. D. Alexandratos **1273**

Mechanical Property and Fracture Morphology of Fiber-Reinforced Polysulfone Plasticized with Acetylene-Terminated Sulfone
K. Mai, J. Li, and H. Zeng **1279**

Oxidative Damage and Recovery of Silicone Rubber Surfaces. I. X-ray Photoelectron Spectroscopic Study
A. Tóth, I. Bertóti, M. Blazsó, G. Bánhegyi, A. Bognar, and P. Szaplonczay **1293**

Phosphorus Modification of Epoxidized Liquid Natural Rubber to Improve Flame Resistance of Vulcanized Rubbers
D. Derouet, N. Radhakrishnan, J.-C. Brosse, and G. Boccaccio **1309**

Flocculation Behavior of Some Cationic Polyelectrolytes
T. Smith-Palmer, N. Campbell, J. L. Bowman, and P. Dewar **1317**

Copolymers of 1,5-Dioxepan-2-one and L- or D,L-Dilactide: Hydrolytic Degradation Behavior
A. Löfgren and A.-C. Albertsson **1327**

Effect of Copper Oxides on the Thermal Oxidative Degradation of the Epoxy Resin
S. G. Hong and T. C. Wang **1339**

NOTES

Hydrolysis of Waste PET by Sulfuric Acid at 150°C for a Chemical Recycling
T. Yoshioka, T. Sato, and A. Okuwaki **1353**

Effect of the Phase Structure on Biodegradability of Polypropylene/Poly(ε-caprolactone) Blends
A. Iwamoto and Y. Tokiwa **1357**

Diskette Submission Instructions ***I***

ISSUE NUMBER 10 / JUNE 6, 1994

Synthesis and Characterization of Hydroxamic Acid Resin of Poly(4-Vinyl-2′-carboxybenzophenone)
K. J. Kamble and D. N. Patkar **1361**

Fracture Toughness and Morphology of Phenolphthalein Poly(ether sulfone)–Thermotropic Liquid Crystalline Polymer Blends
Y. Yang, J. Yin, B. Li, G. Zhuang, and G. Li **1365**

Flexibility Improvement of Epoxy Resin by Using Polysiloxanes and Their Derivatives
J. Tong, R. Bai, Y. Zou, C. Pan, and S. Ichimura **1373**

Catalytic Transesterification in Polycarbonate–Polycaprolactone Systems
M. Shuster, M. Narkis, and A. Siegmann **1383**

Attempt to Reduce Bowing Distortion in Tentering of Film
T. Yamada and C. Nonomura **1393**

Measurements of Ultrasonic Velocity and Attenuation in Biaxially Oriented Polypropylene Films Using Fast Fourier Transform
S. Malinarič **1405**

Structure and Properties of Maleated High-Density Polyethylene
Y. Wang, D. Ji, C. Yang, H. Zhang, C. Qin, and B. Huang **1411**

Silicon Contamination of Substrates in Fluorocarbon Plasmas Produced in Glass Reactors
F. Denes, M. Sarmadi, C. E. C. A. Hop, M. Buncick, and R. Young **1419**

Investigation of the Miscibility of Polycarbonate–Poly(Ethyleneterephthalate) Blends: Solid-State ^{1}H-NMR T_1 Relaxation Time Measurements, Transmission Electron Microscopy, and Structure–Properties Relationship
L. Abis, R. Braglia, I. Camurati, E. Merlo, K. M. Natarajan, D. Elwood, and S. G. Mylonakis **1431**

Aqueous Solution Properties of Poly(Trimethyl Acrylamido Propyl Ammonium Iodide) [Poly(TMAAI)]
W.-F. Lee and C.-C. Tsai **1447**

Characterization of Flexible Slabstock Foams Containing Lithium Chloride
J. C. Moreland, G. L. Wilkes, R. B. Turner, and E. G. Rightor **1459**

Compostability of Cellulose Acetate Films
R. M. Gardner, C. M. Buchanan, R. Komarek, D. Dorschel, C. Boggs, and A. W. White **1477**

Electrically Conductive Composite of Polypyrrole and Liquid Crystalline Copoly(Ester-Amide)s
J. Bao, C. Xu, W. Cai, and X.-T. Bi **1489**

Miscibility in Blends of Sulfonylated Poly(2,6-dimethyl-1,4-phenylene oxide) and Poly(*p*-bromostyrene-*co*-*o*-bromostyrene)
R. Vuković, G. Bogdanić, V. Kurešević, V. Srića, F. E. Karasz, and W. J. MacKnight **1499**

Effects of Processing Parameters and Molecular Weight Distribution on the Tensile Properties of Polypropylene Fibers
E. Andreassen, O. J. Myhre, E. L. Hinrichsen, and K. Grøstad **1505**

Polyacrylonitrile Ultrafiltration Membranes Containing Negatively Charged Groups for Permeation and Separation of Dextran and Dextransulfate
T. Kobayashi, T. Miyamoto, T. Nagai, and N. Fujii **1519**

Diskette Submission Instructions **I**

ISSUE NUMBER 11 / JUNE 13, 1994

Morphological Studies of Bisphenol Series Thermotropic Liquid Crystalline Wholly Aromatic Copolyesters
Z. Zhao, X. Wu, Y. Lin, and J. McLean **1529**

ESR Studies of Molecular Motions at the Interphase Region of a Blendlike Polymeric Material
Ö. Pekcan, Y. Demir, and O. Güven **1539**

Micellar Effect on the Kinetics of Ceric Ion-Initiated Polymerization of Acrylonitrile in the Presence of Organic Substrate
C. M. Patra and B. C. Singh **1549**

Influence of *N*-Acetylglycine on the Kinetics of the Ceric Ion-Initiated Graft Copolymerization of Acrylonitrile and Methyl Methacrylate onto Jute Fibers
C. M. Patra and B. C. Singh **1557**

Direct Electrodeposition of Thin-Layer (Phenylene–Carbazolylene) Copolymers
A. Aboulkassim, K. Faïd, and C. Chevrot **1569**

Structure and Dielectric Properties of Poly(Vinyl Chloride) Thermoplastic Elastomer Blends
S. Radhakrishnan and D. R. Saini **1577**

Effect of Chemical and Physical Crosslinks on Strength of Rubber and Plastics—A Theoretical Approach
J. Furukawa and E. Yamada **1587**

Cold Remote Nitrogen Plasma Polymerization from 1.1.3.3-Tetramethyldisiloxane–Oxygen Mixture
F. Callebert, Ph. Supiot, K. Asfardjani, O. Dessaux, P. Goudmand, P. Dhamelincourt, and J. Laureyns **1595**

Molecular Weight Measurement in Weathered Polymers
B. O'Donnell, J. R. White, and S. R. Holding **1607**

The Deformation Behavior of Poly(dimethyl siloxane) Networks. II. Equilibrium Swelling
S. Venkatraman, A. Nixon, and A. Highe **1619**

Liquefaction of Wood in the Presence of Phenol Using Phosphoric Acid as a Catalyst and the Flow Properties of the Liquefied Wood
L. Lin, M. Yoshioka, Y. Yao, and N. Shiraishi **1629**

NMR Study of the Stabilities of Urea–Formaldehyde Resin Components Toward Hydrolytic Treatments
I.-S. Chuang and G. E. Maciel **1637**

Rheological Behavior and Thermal Stability of Poly(Phenylene Sulfide)/Vectra-B950 Blends
A. Valenza, F. P. La Mantia, L. I. Minkova, S. De Petris, M. Paci, and P. L. Magagnini **1653**

ERRATUM
Microporous Polypropylene Sheets Containing Polymethylsilsesquioxane Filler
S. Nagō and Y. Mizutani **1665**

Diskette Submission Instructions **I**

ISSUE NUMBER 12 / JUNE 20, 1994

Physical Modification of Polyacrylonitrile Precursor Fiber: Its Effect on Mechanical Properties
P. H. Wang, J. Liu, and R. Y. Li **1667**

Chemical Modification of Lignocellulosic Fibers I. Functionality Changes and Graftcopolymerization of Acrylonitrile onto Pineapple Leaf Fibers; Their Characterization and Behavior
R. K. Samal and B. L. Bhuyan **1675**

X-Ray Study of Crystallinity and Disorder in Ramie Fiber
K. P. Sao, B. K. Samantaray, and S. Bhattacherjee **1687**

Effects of Reactive Functional Groups in the Compatibilizer on Mechanical Properties of Compatibilized Blends
C.-J. Wu, J.-F. Kuo, C.-Y. Chen, and E. Woo **1695**

The Effects of Soft Segments on the Physical Properties and Water Vapor Permeability of H_{12}MDI-PU Cast Films
M. S. Yen and K. L. Cheng **1707**

Comparative Study on Rebound Resilience and Structures of Sodium Salts of Maleic Anhydride-Grafted Ethylene-*co*-ethyl Acrylates with Its Analogous Polymers
Y. Iwase, H. Hara, and E. Hirasawa **1719**

Degradation of Respirable Fibrils of Poly(*p*-phenylene terephthalamide) by Solar Ultraviolet Radiation
W. F. Knoff **1731**

Kinetics Study of Slurry-Phase Propylene Polymerization with Highly Active $Mg(OEt)_2$/Benzoyl Chloride/$TiCl_4$ Catalyst
I. Kim, H. K. Choi, J. H. Kim, and S. I. Woo **1739**

Studies on the Synthesis and Properties of Copolyesterimide
C.-H. Li, C.-C. Chen, and K.-M. Chen **1751**

Synthesis of Nonionic and Anionic Hydrogels Bearing a Monosaccharide Residue and Their Properties
N. Fukudome, K. Suzuki, E. Yashima, and M. Akashi **1759**

Polymeric Thermoresistant Blends Based on Poly-SAN and Imidized PMMA: Thermal and Electrical Characterization
G. Paciello, A. Saccani, F. Sandrolini, D. Frezzotti, A. Callaioli, and G. P. Ravanetti **1765**

Rubber- and Thermoplastic-Toughened Epoxy Adhesive Films
A. M. Romano, F. Garbassi, and R. Braglia **1775**

Surface Modification of UHMWPE Fibers
M. S. Silverstein, O. Breuer, and H. Dodiuk **1785**

Controlled Release of Proteins from Poly(L-lactic acid) Coated Polyisobutylcyanoacrylate Microcapsules
T. G. Park, M. J. Alonso, and R. Langer **1797**

Physical, Thermomechanical, and Rheological Properties of Bisphenol A–Tetrabromobisphenol A Copolycarbonates
M. J. Marks, S. L. Brewster, and J. K. Sekinger **1809**

Time-Dependent Fracture Toughness Measure for Polyethylene
J. J. Strebel and A. Moet **1815**

A Comparison of Methods for the Estimation of Polymer/Monomer Interaction Parameters: The Polystyrene/*n*-Butyl Methacrylate System
Y. G. Durant, D. C. Sundberg, and J. Guillot **1823**

NOTE
Pseudo Interpenetrating Polymer Networks of High Molecular Weight Polychloroprene and *cis*-1,4-Polybutadiene
Y. Xue, Z. Chen, and H. L. Frisch **1833**

Diskette Submission Instructions ***I***

ISSUE NUMBER 13 / JUNE 27, 1994

Microfiber Formation: Immiscible Polymer Blends Involving Thermoplastic Poly(vinyl alcohol) as an Extractable Matrix
L. M. Robeson, R. J. Axelrod, M. S. Vratsanos, and M. R. Kittek **1837**

Wood-Induced Catalytic Activation of PF Adhesives Autopolymerization vs. PF/Wood Covalent Bonding
A. Pizzi, B. Mtsweni, and W. Parsons **1847**

Aspects of Surface Characterization of Polyurethane Adhesives
I. Ulkem and H. P. Schreiber **1857**

Kinetic Study of Pyrrole Polymerization with Iron(III) Chloride in Water
M. F. Planche, J. C. Thiéblemont, N. Mazars, and G. Biden **1867**

Suspended Emulsion, A New Process for Vinyl Chloride Polymerization: Morphology Control Through Surface Active Additives
Ph. Vindevoghel, P. Nogues, and A. Guyot **1879**

Precrack Hysteresis Energy in Determining Its Ductile–Brittle Transition. III. Effect of Temperature
F.-C. Chang and H.-C. Hsu **1891**

Melt Viscosity of Oligomeric Triblock Copolymers (Type PEP) of Ethylene and Propylene Oxides
L. Šimek, S. Petřik, and M. Bohdanecký ***1905***

Particle Sizing of Flocculated Latex Particles by Physisorption of Nitrogen
E. A. W. G. Janssen, H. F. Zirkzee, A. L. German, and I. A. Maxwell ***1913***

Radial Distribution Function Analysis Study on Alkali and Heat-Treated Ramie Fiber
K. P. Sao, B. K. Samantaray, and S. Bhattacherjee ***1917***

Experimental Testing of the Polymer–Filler Gel Formation Theory. Part I
L. Karásek and B. Meissner ***1925***

Thermochemical Stress Crazing and Cracking of Thermoplastics
D. G. LeGrand ***1933***

Automated Microscopic Technique for Evaluating Poly(Vinyl Chloride)–Plasticizer Compatibility
V. Caldes, T. Radiotis, and G. R. Brown ***1939***

Toughened Polystyrene Composites by the Concentrated Emulsion Pathway
E. Ruckenstein and H. Li ***1949***

Volume Title Page ***1959***

Subject Index to Volume 52 ***1961***

Volume Contents to Volume 52 ***1967***

Author Index to Volume 52 ***1983***

Diskette Submission Instructions ***I***